

AMENDMENTS TO THE CLAIMS

Please add new Claims 11 through 15 as follows:

1. (Previously Presented) A pumping apparatus with a peristaltic drive device for pumping a medium through a line having at least one compressible portion, containing a one-piece shaft with cams arranged so as to be offset with respect to one another and with attached lamellae, positive guidance for the lamellae being provided, wherein the cams are cam segments, the shaft is essentially without a core shaft and essentially without a continuous core region, and the ratio between the lamella height (c) and lamella stroke (h) is about 4:1 or less.
2. (Previously Presented) The pumping apparatus according to Claim 1, wherein the shaft has a thin continuous core region, in particular a continuous core region with a diameter of below 3 mm.
3. (Previously Presented) The pumping apparatus according to Claim 1, additionally comprising a counterpressure plate for applying the line, in particular a hose, and for supporting the pressure exerted on the line or the hose by the lamellae.
4. (Previously Presented) The pumping apparatus according to Claim 3, wherein the counterpressure plate is sprung within a housing of the pumping apparatus by one or more springs.
5. (Previously Presented) A shaft for a pumping apparatus with a peristaltic drive device, the shaft being formed in one piece, wherein the shaft is designed without a core shaft and essentially without a continuous core region or, for an increase in stability, with a thin continuous core region with a diameter of below 3 mm and having cam segments offset with respect to one another and contiguous to one another.
6. (Previously Presented) The shaft according to Claim 5, wherein an odd or even number of cam segments is provided.
7. (Previously Presented) The shaft according to Claim 5, wherein the cam segments are offset with respect to one another in such a way that only one cam segment is at a maximum distance from an imaginary center line of the shaft.
8. (Previously Presented) The shaft according to Claim 7, wherein a uniform offset (α) of the cam segments is provided.

9. (Previously Presented) The shaft according to Claim 5, wherein the shaft comprises a plastic, in particular a carbon fibre plastic, a glass-fibre-reinforced polymer or another stable and dimensionally consistent material.

10. (Previously Presented) The pumping apparatus according to Claim 1, wherein said line and drive device are configured as an infusion pump or transfusion pump, for dialysis or as a hose pump for other medical purposes.

11. (New) A method for pumping a medium through a line having at least one compressible section, the method comprising:

providing a pumping apparatus with a peristaltic drive device containing a one-piece shaft being essentially without a core shaft and essentially without a continuous core region, having cams arranged so as to be offset with respect to one another and with attached lamellae, positive guidance for the lamellae being provided and the cam segments being offset with respect to one another in such a way that only one cam segment is at a maximum distance from an imaginary center line of the shaft;

progressively compressing the line on one side by the lamellae without completely pinching the line; and

generating a fluid flow in the line.

12. (New) The method according to claim 11, further comprising pinching the line so that a volume can be enclosed in a leak-tight manner at the first and at the last cam segment, and that the remaining lamellae serve for the reduction in volume.

13. (New) The method according to claim 12, wherein the first and the last lamella are switched as a valve and the remaining lamellae are set in such a way that, in any position, at least a narrow gap remains between the walls of the line acted upon by the lamellae.

14. (New) The method according to claim 11, further comprising pumping in two directions, a first direction and an opposite second direction.

15. (New) The method according to claim 11, further comprising generating a sinusoidal pinching movement of the lamellae for generating the fluid flow through the line when the cam segments have a uniform offset.